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CRUISE REPORT

R/V LULU 110

July 7 - 21, 1981

James M. Robb
Office of Marine Geology
Woods Hole, MA 02543

Vessel and Cruise: R/V LULU Cruise 110

Dates/Ports: Leave Woods Hole 7 July 81
Return Woods Hole 21 July 81

USGS Personnel: James Robb
John C. Hampson, Jr.

Cruise Operator: Lamont-Doherty Geological Observatory
Barbara Hecker, Chief Scientist

Funding Agency: BLM

Area of Study: Continental Slope areas between Baltimore Canyon and
Hendrickson Canyon (see table 1)

Operations: DSRV ALVIN made 13 dives during this cruise (table 1).
Dives 1112, 1115, and 1117 were specifically for USGS
studies of Continental Slope geomorphology and processes.
Others were for BLM biological studies. Nine of the
twelve dives were made with both biological and geo-
logical observers. Dive 1114 was aborted because exterior
lights of the submarine failed at launch.

Echo-sounding surveys (12 kHz) were made at night to ensure
that planned dive locations were correct. About 13 km
(7 nm) of these echo-sounding survey lines were retained
for USGS mapping.

Statistics: USGS participants: 2
Days at sea: 16
Dives (USGS): 3
Dives with USGS observer: 9
USGS man-days at sea: 32
Echo-sounding tracklines (km): 13 ✓
Sediment samples retained by USGS: 46 ✓

Data:

- 1) Observer descriptions (cassettes): to be transcribed at
L-DGO by agreement with Hecker: exchange for biological
and geological studies agreed on.
- 2) Bow camera photos (100 feet each of black and white and
color) to be processed by WHOI and retained in ALVIN
archives.
- 3) Hand-held camera photos: responsibility of each observer:
Agreement to exchange.
- 4) Samples: Biological specimens to L-DGO (Hecker), geological
samples to L-DGO and to USGS: Agreement to exchange data.
(USGS samples: table 1)
- 5) 12 kHz echo-sounding records: L-DGO, 13 km to USGS data library
- 6) Submarine log: WHOI ALVIN/LULU group archives

Cruise Summary:

Dive # Date	Observer 1 Observer 2	Pilot	Latitude (N) Longitude (W)	Depth range (m)	USGS Samp. #	Comments
1107 7-09-81	Hecker Robb	Ellis	38°04' 73°27'	1,784 1,944	1, 2	Lower Baltimore Canyon; axis and north wall
1108 7-10-81	Gibson Logan	Brown	38°02' 73°41'	1,054 1,437	3, 4	Lower-middle Baltimore Canyon; axis and south wall
1109 7-11-81	Hecker Ashton	Hollis	38°06' 73°47'	520 1,061	5	Upper-middle Baltimore Canyon; axis and north- east wall
1110 7-12-81	Gibson Robb	Ellis	38°00' 73°28'	1,677 1,959	6	Side-canyon, possibly older abandoned axis of Baltimore Canyon
1111 7-13-81	Hecker Logan	Brown	38°09.5' 73°50.5'	300 639	7, 8	Upper Baltimore Canyon
1112* 7-14-81	Robb Gibson	Hollis	38°48' 72°46'	1,403 1,648	1112 1-9	Southwest of Carteret Canyon; amphitheater. Note change in sample numbering at first USGS dive
1113 7-15-81	Hecker Hampson	Ellis	38°45' 72°45'	1,851 2,111	1113 1, 2	Eocene outcrop, lower slope valley
1114 ABORTED 1115* 7-16-81	Robb Logan	Brown	38°44.5' 72°39.5'	2,112 2,180	1115 1-6	Base of slope, upper rise Carteret Canyon area
1116 7-17-81	Hecker Hampson	Hollis	38°58' 72°24.5'	1,737 2,050	1116 1-6	Lower Hendrickson Canyon
1117* 7-18-81	Robb Gibson	Ellis	38°50' 72°35.5'	1,670 1,990	1117 1-9	Lower slope lineations; Berkeley Canyon
1118 7-19-81	Logan Hampson	Brown	39°03.5' 72°29'	937 1,448	1118 1, 2	Lower-middle Hendrickson Canyon
1119 7-20-81	Hecker Robb	Hollis	39°06' 72°29.5'	688 1,231	1119 1-4	Upper Hendrickson Canyon

*USGS dives